Saltville Waste Disposal Ponds

Smyth County, Virginia
Superfund Program Site Fact Sheet

Type of Facility: Former Chlor-akali Plant

Contaminants: Mercury

Funding: Enforcement Financed

Site Description and History

The Saltville Waste Disposal Ponds site is located along the North Fork of the Holston River (NFHR) between the Town of Saltville and the community of Allison Gap in western Smyth County and eastern Washington County, Virginia. From 1895 to 1972 Olin Chemical Corporation (Olin) and its predecessor used the site for various chemical operations. These operations released industrial wastewater containing mercury into two large adjacent wastewater treatment ponds, known as Ponds 5 and 6, resulting in mercury contamination of the site and the NFHR.

In August 1982, the Virginia State Water Control Board issued a Consent Special Order to Olin under which Olin dredged 1000 feet of the NFHR. Olin placed the dredged material in a landfill created at the site of the former Chlorine Plant. Olin also constructed a surface water diversion ditch on the western side of Pond 5. The site was placed on the National Priorities List (NPL) on September 1, 1983. An Environmental Protection Agency (EPA) removal action, consisting of contaminated soil removal, took place in October 1991 in an area proposed for a bridge construction.

The site is being addressed in three operable units (OUs) to facilitate the work. OU-1 covered the construction of a surface water diversion ditch around the eastern side of Pond 5 and a treatment plant to handle surface water collected at Pond 5. OU-2 includes remediation of Ponds 5 and 6 and ground water interception. OU-3 involves investigations of the river and the former Chlorine Plant area, and any necessary remedial action. (EPA splits OU-1 and uses four OUs for the site.)

A Record of Decision (ROD) for OU-1 was signed in June 1987. The remedy selected was: treatment of contaminated water from Pond 5 using pH adjustment, filtration, and carbon absorption; installation of a ground water monitoring system; and the design and construction of a diversion ditch to prevent surface water run-on to the eastern side of Pond 5.

At OU-1, the up gradient control (Pond 5 Eastern Diversion Ditch) was completed in 1991 and the water treatment plant went on line in November 1994. The discharge limits were modified in September 2000 due to changes in the mercury standards. In early 1997, the pumps at the water treatment plant were upgraded to handle increase water volumes following heavy rainfall.

In September 1995, a ROD for OU-2 was signed. The remedy selected was: installation of a cap and a ground water interception system, and revision of discharge limits at Pond 5; installation of a soil cover, and pH adjustment of surface water collected from Pond 6 and discharged to the river.

In April 1997, Olin signed a consent decree and an administrative order. The remedial alternatives for Pond 5 and 6 consist of capping, ground water interceptor trenches, ground water treatment, and institutional controls. Olin hired LAW Engineering and Environmental Services to do the remedial design work.

They conducted field activities to delineate the extent of mercury present and physical characteristics of the Pond 5 and 6 sediment. The Remedial Design Report was completed in March 2001, and the remedial action was completed in September 2002. It consisted of capping Pond 5, covering Pond 6, piping the Pond 6 outfall to the water treatment plant, and improving the ground water interception swales.

OU-3 activities include an investigation of the former Chlorine Plant site, an investigation of surface water, sediments, fish and invertebrates in the NFHR and the main stem of the Holston River, and any required remedial action. Approximately 1,140 people live within a mile of the site. The community's drinking water is obtained from uncontaminated surface springs.

Threats and Contaminants

Mercury from the plant's waste disposal ponds has contaminated soils, ground water, sediment, and surface water. Eating contaminated fish from the NFHR poses a health risk. The NFHR is a habitat for two endangered species: the fine-rayed mussel and the spotfin chub. Virginia and Tennessee have placed modified bans on fishing in the NFHR. Virginia allows catch-and-release game fishing, while Tennessee allows catch-and-release and trophy fishing. Eating fish from the regulated section of the NFHR is prohibited. A preliminary ecological assessment shows there may be a threat to aquatic or terrestrial receptors.

Current Site Status

The OU-1 water treatment plant will continue to operate as long as it is needed, and maintenance of the surface water interception ditches will continue.

Maintenance of the OU-2 Pond 5 cap, the Pond 6 cover and the ground water interception swales will continue.

OU-3 is in the Remedial Investigation/Feasibility Study (RI/FS) stage. A work plan done by Golder Associates for supplemental site characterization studies for the former chlorine plant site was approved in September 1997. Completion of the supplemental work to evaluate the effectiveness of the soil cover was completed in early 1998, and ground water monitoring was completed later in 1999. A revised Supplemental Remedial Investigation Report was submitted in September 2002.

A Supplemental Remedial Investigation Work Plan on the NFHR was submitted in April 1993 and approved in April 2002. The Holston River Sediment Investigation Work Plan was submitted in March 2002. Olin continues to do routine river monitoring.

In October 2000 Tetratech started work on the ecological risk assessment of the NFHR. Ecological sampling began in August 2001 and continued into 2002. The NFHR Screening Level Ecological Risk Assessment was submitted in August 2002.

A Five-Year Review Report was completed in September 2002 for the entire site.

Community Relations and Concerns

On July 18, 1990, a press conference, legislative briefing, and public meeting were held. Community interviews took place in June 1991 and public availability sessions were held for the community on July 27 and 28, 1994. Also, a public meeting was held on February 1, 1995, to present the proposed remedial design plan for OU-2. Additional public availability sessions were held on March 8 and 9, 1995. A public availability session for the remedial action plan was held on April 16, 2001.

An OU-3 Proposed Plan public meeting will be held when the RI/FS is complete. Olin sponsors a community liaison panel that publishes a newsletter.

The citizens were concerned about the total effect from all potentially contaminated sites so the Agency for Toxic Substances Disease Registry (ATSDR) conducted an area health consultation. In May 1997, they concluded that the site could not be linked to area health concerns. ATSDR has also managed community relation activities.

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